

CLAIMS

1. An image processing apparatus comprising:

a specific area specifying means for specifying a specific area determined based on the body portion of a person constituting an object in an image; and

an image generating means for generating an image with the image processing executed on a specific area specified by the specific area specifying means.

2. An image processing apparatus comprising:

a specific area specifying means for specifying a specific area determined based on the body portion of a person constituting an object in an image; and

an image generating means for generating an image subjected to the gradation process as the image processing on a specific area specified by the specific area specifying means.

3. An image processing apparatus as set forth in claim 1 or 2,

wherein the specific area specifying means includes:

a detection means for detecting the body portion of a person constituting an object in an image; and

a specifying means for specifying the specific area

based on the body portion detected by the detection means.

4. An image processing apparatus as set forth in any one of claims 1 to 3,

wherein the image generating means generates an image subjected to the image processing in an area within a specific area specified by the specific area specifying means, which area has a color component equal or near to the main color component representing the body portion constituting a reference of the specific area.

5. An image processing apparatus as set forth in any one of claims 1 to 3,

wherein the image generating means includes:

a strength value calculation means for calculating the strength value indicating the degree to which the color component of each pixel of the image to be processed is near to the main color component representing the body portion constituting a reference of the specific area;

an image processing means for conducting the image processing on the specific area of the image to be processed; and

a color component calculation means for calculating a color component nearer to the color component of each pixel of the original image as a new color component of the pixel,

the farther the strength value of the pixel from the main color component of the body portion providing a reference of the specific area on the one hand, and calculating a color component nearer to the color component of each pixel of the image generated by the image processing means as a new color component of the pixel, the nearer the strength value of the pixel to the main color component of the body portion providing a reference of the specific area on the other hand;

wherein the color component calculation means calculates the new color component of each pixel based on the strength value calculated by the strength value calculation means.

6. An image processing apparatus as set forth in any one of claims 1 to 3,

wherein the image generating means includes:

a strength value calculation means for calculating the strength value indicating the degree to which the color component of each pixel of an image to be processed is near to the main color component of the body portion constituting a reference of the specific area;

an image processing means for conducting the image processing on the image to be processed;

a mask means for changing the strength value of the

pixels in other than the specific area specified by the specific area specifying means, to a value far from the main color component of the body portion constituting a reference of the specific area; and

a color component calculation means for calculating a color component nearer to the color component of each pixel of the original image as a new color component of the pixel, the farther the strength value of the pixel from the main color component of the body portion providing a reference of the specific area on the one hand, and calculating a color component nearer to the color component of each pixel of the image generated by the image processing means as a new color component of the pixel, the nearer the strength value of the pixel to the main color component of the body portion providing a reference of the specific area on the other hand;

wherein the color component calculation means calculates a new color component of each pixel based on the strength value calculated by the strength value calculation means and the mask means.

7. An image processing apparatus as set forth in any one of claims 1 to 3,

wherein the image generating means includes:

a strength value calculation means for calculating

the strength value indicating the degree to which the color component of each pixel of the image to be processed is near to the main color component of the body portion constituting a reference of the specific area; and

an image processing means for conducting the image processing on each pixel of the specific area of the image to be processed, by weakening the effect of the image processing more, the farther the strength value of the pixel from the main color component of the body portion constituting a reference of the specific area on the one hand, and by strengthening the effect of the image processing more, the nearer the strength value of the pixel from the main color component of the body portion constituting a reference of the specific area on the other hand;

wherein the image processing means conducts the image processing based on the strength value of each pixel of the image obtained by the strength value calculation means.

8. An image processing apparatus as set forth in any one of claims 1 to 3,

wherein the image generating means includes:

a strength value calculation means for calculating the strength value indicating the degree to which the color component of each pixel of the image to be processed is

near to the main color component of the body portion constituting a reference of the specific area;

a mask means for changing the strength value of the pixels in other than the specific area specified by the specific area specifying means, to a value far from the main color component of the body portion constituting a reference of the specific area; and

an image processing means for conducting the image processing on the image to be processed, by weakening the effect of the image processing more, the farther the strength value of the pixel from the main color component of the body portion constituting a reference of the specific area on the one hand, and by strengthening the effect of the image processing more, the nearer the strength value of the pixel from the main color component of the body portion constituting a reference of the specific area on the other hand;

wherein the image processing means conducts the image processing based on the strength value of each pixel of the image obtained by the strength value calculation means and the mask means.

9. An image processing apparatus as set forth in claim 6,

wherein the image processing means conducts no image processing of a pixel having a predetermined range of the

strength value.

10. An image processing apparatus as set forth in any one of claims 1 to 9,

wherein the image generating means determines the contents of the image processing to be conducted, based on the size of the body portion constituting a reference of the specific area specified by the specific area specifying means.

11. An image processing apparatus as set forth in any one of claims 1 to 10, further comprising an element extraction means for extracting at least one element making up the body portion of a person constituting an object in an image to be processed, and included in the specific area,

wherein the image generating means conducts, in a limited way, the image processing of an element area determined based on the element extracted by the element extraction means.

12. An image processing apparatus as set forth in claim 5 or 6,

wherein the image generating means further includes an edge mask means for acquiring the strength of the edge of each pixel of an image to be processed, and producing

the strength value of the pixel which is farther from the main color component of the body portion constituting a reference of the specific area, the higher the strength of the edge extracted,

wherein the color component calculation means calculates a new color component of each pixel based on the strength value calculated by the edge mask means.

13. An image processing apparatus as set forth in claim 7 or 8,

wherein the image generating means further includes an edge mask means for acquiring the strength of the edge of each pixel of an image to be processed, and producing the strength value of the pixel which is farther from the main color component of the body portion constituting a reference of the specific area, the higher the strength of the edge extracted; and

wherein the image processing means conducts the image processing further based on the strength value of each pixel of the image obtained by the edge mask means.

14. An image processing apparatus as set forth in claim 12 or 13,

wherein the edge mask means produces the strength value for each pixel after reducing the image to be

processed, and further enlarges the image to the original size.

15. A program for causing an information processing system to execute:

the step of specifying a specific area determined based on the body portion of a person constituting an object in an image; and

the step of generating an image subjected to the image processing on the specific area specified.

16. A program for causing an information processing system to execute:

the step of specifying a specific area determined based on the body portion of a person constituting an object in an image; and

the step of generating an image subjected to the gradation process for the specific area specified.

17. A program as set forth in claim 15 or 16, wherein the image generating step causes the information processing system to generate an image subjected to the image processing based on the skin color component of a person constituting an object, extracted from the body portion providing a reference of the specific area specified.

18. A program for causing an information processing system to execute:

the step of specifying the position and the range of an area including an arbitrary image in an image; and

the step of generating an image subjected to the image processing in an area having a color component equal or near to the main color component representing an area in the specified area.